

ABOUT CONSORTIUM

The consortium "RUBIN-AUTOMATION" consolidates professional experience of key specialists in the field of automated control systems.



INVESTIGATION



DESIGNING
AND INSTALLATION



MONITORING
UTILITIES



UTILITIES



SCIENCE
AND EXPERTISE



TRAINING
AND PROFESSIONAL
DEVELOPMENT



a pool of scientists, experts, designers, practical engineers, highly skilled workers as well as specialists in various fields of expertise connected with issues of providing effective control over automation objects.



An engineering centre engaged in a wide range of projects and services from making draft proposals, designing and coordinating the project appraisal to actualizing and maintaining automated systems.

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CONSORTIUM RUBIN-AUTOMATION

*Professional solutions
– basis for development!*



Dispatch system for objects
of the automatic deicing system (ADS)



Control-objects

- Highway sections, road interchanges.

Goals of introduction

- Keeping the roadway in a proper condition under adverse weather conditions due to:
 - providing the roadway condition remote monitoring;
 - automatic and manual monitoring of the equipment of the deicing system.

System: functions

- Displaying the following data on the dispatcher's AWS:
 - from the weather station: air temperature, dew point, relative humidity, atmospheric pressure, wind speed and direction, the type and amount of precipitation, the roadway condition (roadway temperature, environment freezing temperature, technical state and operating modes of the equipment);
 - ADS: the pump is "on/off", electromagnetic valves are "open/closed".
 - Logging archival information and displaying it on the dispatcher's AWS.
 - Warning on the roadway degradation.
 - Warning on the ADS state:
 - the low level of chemicals in the tank;
 - the low/high chemicals pressure;
 - the button "Emergency stop" is pressed;
 - malfunction of level, pressure, temperature, flow sensors;
 - no connection with the weather station, the vehicle-actuated gauge.
 - Automatic control and monitoring of electromagnetic valves of road heads blocks (RHB) used for spraying chemicals.
 - Generating reports on causes of system actuation and chemicals consumption.

System: features

- Reducing the number of emergencies on controlled road sections connected with the roadway degradation due to weather conditions.
- Optimizing chemicals consumption on controlled road sections.
- Increasing ADS equipment operational reliability due to timely diagnostic troubleshooting.



Components

- Lower level equipment (including vehicle-actuated gauges, road heads blocks).
- Control cabinets with controllers and input/output modules.
- A server combined with the dispatcher's AWS controlled by SCADA KRUG-2000.

Implemented: projects

- Highway section Moscow - Saint-Petersburg (Northern lateral road) - road interchange at the intersection with Festivalnaya Street.
- Highway section Moscow - Saint-Petersburg (Northern lateral road) - from Businovskaya interchange to Festivalnaya Street.
- Road interchange Moscow ring road - Kashirskoye highway. Central pumping station №2.
- Highway section from Kievskoye to Kaluzhskoye highway. Overpass №8.